INTRODUCTION TO COMPUTER SECURITY
CSCE 4550.001 – FALL 2014

Instructor: Dr. Mark Thompson
Office: NTDP F264
Telephone: 940/369-7055
E-mail Address: Mark.Thompson2@unt.edu
Class Location/Time: NTDP B190, TuTh 2:30 – 3:50 PM
Office Hours: MoWe 12:30 – 2:30 PM TuTh 12:00 – 1:00 PM or by appointment
Every attempt will be made to answer e-mails within 24 hours.
Reference Books:
Reference Material:
Prerequisites: CSCE 3600
Blackboard
This course will use Blackboard, a Web-based course management system, to distribute course materials, communicate and collaborate online, post grades and submit assignments. You are responsible for checking the Blackboard course site regularly for class work and announcements.
TA/Grader Jagannadh Vempati E-mail: JagannadhVempati@my.unt.edu

COURSE DESCRIPTION
The aim of this course is to introduce the concepts and principles of computer security and privacy. It covers theory and practice of computer security and privacy including OS and network security, security threats and countermeasures against them, cryptography, risk analysis and data privacy.
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COURSE OUTCOMES
Course outcomes are measurable achievements to be accomplished by the completion of a course. These outcomes are evaluated as part of our ABET accreditation process.

1. Understand common security terminology, threats, vulnerabilities, and security design principles
2. Understand basic cryptography concepts, and specific commonly used algorithms and protocols.
3. Understand common program vulnerabilities, and secure programming techniques.
4. Understand formal security models, including Bell-LaPadula (MLS), Biba, and Chinese Wall security.
5. Understand basic network security issues and controls.
6. Understand administrative issues in security, such as planning, security policies, and risk analysis.
7. Understand privacy concepts and data anonymization
8. Obtain hands-on experience in using common security tools, such as firewalls, intrusion detection systems, and port scanning software.

ADA STATEMENT
The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information, see the Office of Disability Accommodation website at http://disability.unt.edu. You may also contact them by phone at (940) 565-4323.

ACCESS TO INFORMATION – EAGLE CONNECT
Your access point for business and academic services at UNT occurs http://www.my.unt.edu. All official communication from the university will be delivered to your Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward your e-mail: http://eagleconnect.unt.edu.

SUCCEED AT UNT
UNT endeavors to offer you a high-quality education and to provide a supportive environment to help you learn and grow. And as a faculty member, I am committed to helping you be successful as a student. Here’s how to succeed at UNT: (1) show up; (2) find support; (3) get advised; (4) be prepared; (5) get involved; and (6) stay focused.
EMERGENCY NOTIFICATION & PROCEDURES
UNT uses a system called Eagle Alert to quickly notify you with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). The system sends voice messages (and text messages upon permission) to the phones of all active faculty, staff, and students. Please make certain to update your phone numbers at http://www.my.unt.edu. Some helpful emergency preparedness actions include: (1) know the evacuation routes and severe weather shelter areas in the buildings where your classes are held; (2) determine how you will contact family and friends if phones are temporarily unavailable; and (3) identify where you will go if you need to evacuate the Denton area suddenly. In the event of a university closure, please refer to Blackboard for contingency plans for covering course materials.

ACCEPTABLE STUDENT BEHAVIOR
Student behavior that interferes with an instructor’s ability to conduct a class or other students’ opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student’s conduct violated the Code of Student Conduct. The university’s expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at http://deanofstudents.unt.edu.

RETENTION OF STUDENT RECORDS
Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys) and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Blackboard online system, including grading information and comments, is also stored in a safe electronic environment for one year. You have a right to view your individual record; however, information about your records will not be divulged to other individuals without the proper written consent. You are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the university’s policy in accordance with those mandates at the following link: http://essc.unt.edu/registrar/ferpa.html.

STUDENT EVALUATION OF TEACHING (SETE)
Student feedback is important and an essential part of participation in this course. The Student Evaluation of Teaching (SETE) is a requirement for all organized classes at UNT. This short survey will be made available at the end of the semester to provide you with an opportunity to evaluate how this course is taught.
ACADEMIC DISHONESTY
Students caught cheating or plagiarizing will receive a “0” for that particular assignment or exam. Additionally, the incident will be reported to the Dean of Students, who may impose further penalty. According to the UNT catalog, the term “cheating” includes, but is not limited to: (a) use of any unauthorized assistance in taking quizzes, tests, or examinations; (b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (c) the acquisition, without permission, of tests of other academic material belonging to a faculty or staff member of the university; (d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or (e) any other act designed to give a student an unfair advantage. The term “plagiarism” includes, but is not limited to: (a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement; and (b) the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Individual programming assignments in this course must be the sole work of the individual student. You should not work with other students on shared program solutions or use program solutions found on the Internet. Specifically, you should never copy someone else’s solution or code, and never let a classmate examine your code. If you are having trouble with an assignment, please consult with your instructor.

Students are responsible for being familiar with the university standard for academic integrity. Additionally, students need to include proper citation for books and/or Internet-based resources on their submissions.

ATTENDANCE POLICY
Class attendance is regarded as an obligation as well as a privilege. All students are therefore expected to attend each class meeting. A student who misses class is still responsible to find out what was discussed and to learn the material that was covered and obtain the homework that was assigned on the missed day. The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on all material covered in this course, regardless of attendance.

Excessive unexcused absences may result in your class grade being lowered and can even lead to being dropped from the course. If you miss class for what you believe to be a valid reason, you must submit a written excuse within two days of your return. Excused absences typically consist of, but are not limited to: (1) illness with a physician’s note; (2) university sanctioned event; and (3) documented family emergency, such as a death in your immediate family. The instructor will have the final say as to whether or not an absence is excused.

If you anticipate being absent from a class, please notify your instructor in advance to see if there is any course material or other important information you might need prior to your absence. A student who is tardy for a class meeting should resolve the matter with the instructor at the end of the class period during which the tardiness occurred. Otherwise, the instructor may treat the tardiness as an absence. Since this class meets on a TuTh schedule, students with more than four (4) unexcused absences may be dropped from the course or have their grade lowered by one letter grade at the discretion of the instructor. Therefore, I expect your participation and attendance in this class to receive high priority.
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GRADING POLICY
Your course grade will be a weighted average according to the following:

- Attendance/Participation: 5.0%
- Homework: 10.0%
- Labs: 35.0%
- Exams 1 – 2: 20.0% (10.0% each)
- Final Project: 15.0%
- Comprehensive Final Exam: 15.0%
- Total: 100.0%

Your letter grade for the semester will be determined as follows:

- A = 90 – 100
- B = 80 – 89
- C = 70 – 79
- D = 60 – 69
- F = 0 – 59

Grades will be posted on Blackboard throughout the semester to provide an ongoing assessment of student progress, though final assessment will be measured using the weighted average above.

Attendance/Participation: Attendance/Participation grades will be based on attendance, contribution to in-class discussions, and assessment of any in-class work. Disruptive behavior and unexcused absences deemed excessive will result in a lower attendance/participation grade.

Homework: Homework will be assigned based on material from the lectures and textbook. These assignments are meant for you to become familiar with the course material and this practice will aid you in mastering the concepts on the labs and exams. Homework assignments may be turned in up to 3 days late, with a penalty of 15% for each day late.

Labs: Students will complete several in-depth hands-on laboratory projects during the semester intended to give a more thorough view of computer security. More details about the labs will be made at a later date.

Exams: There will be two examinations given in this course. The dates of these exams will be posted on Blackboard and announced in class at least one week prior to the date of the exams. A make-up exam will be given at the discretion of the instructor when a student misses an exam with an excused absence. Unexcused absences on the date of an exam may result in a grade of “0” for the missed exam, so every effort should be made to attend class on the day of a scheduled exam.

Final Project: There will be a final project due in this course. More details about this project will be made at a later date.

Final Exam: There will be a comprehensive final exam on Tuesday, December 9, 2014, from 2:00 PM to 4:00 PM. All students are expected to take the final exam during the scheduled time period.
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### Tentative Class Schedule (subject to change):

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<th>Week</th>
<th>Date</th>
<th>Tuesday</th>
<th>Thursday</th>
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<tr>
<td>1</td>
<td>8/25 – 8/29</td>
<td>Introduction to the Course</td>
<td>Overview of Security &amp; Security Design Principles</td>
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<tr>
<td>2</td>
<td>9/1 – 9/5</td>
<td>Mathematical Review &amp; Foundations</td>
<td>Access Control Models</td>
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<tr>
<td>3</td>
<td>9/8 – 9/12</td>
<td>OS Security</td>
<td>Security Policies, Confidentiality &amp; Integrity Models</td>
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<tr>
<td>4</td>
<td>9/15 – 9/19</td>
<td>Security Policies, Confidentiality &amp; Integrity Models</td>
<td>Hybrid Models, RBAC</td>
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<td>5</td>
<td>9/22 – 9/26</td>
<td>Identity &amp; Authentication</td>
<td>TBD, Review</td>
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<tr>
<td>6</td>
<td>9/29 – 10/3</td>
<td><strong>Exam 1</strong></td>
<td>Cryptography</td>
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<td>7</td>
<td>10/6 – 10/10</td>
<td>Cryptography</td>
<td>Key Management &amp; Network Security</td>
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<td>8</td>
<td>10/13 – 10/17</td>
<td>Key Management &amp; Network Security</td>
<td>Auditing, IDS, Firewalls, VPN</td>
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<tr>
<td>9</td>
<td>10/20 – 10/24</td>
<td>Auditing, IDS, Firewalls, VPN</td>
<td>Secure Coding</td>
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<tr>
<td>10</td>
<td>10/27 – 10/31</td>
<td>Secure Coding</td>
<td>Web Security</td>
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<td>11</td>
<td>11/3 – 11/7</td>
<td>TBD, Review</td>
<td><strong>Exam 2</strong></td>
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<tr>
<td>12</td>
<td>11/10 – 11/14</td>
<td>Web Security</td>
<td>Vulnerability Analysis</td>
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<tr>
<td>15</td>
<td>12/1 – 12/5</td>
<td>Privacy Laws &amp; Regulations</td>
<td>Review</td>
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<tr>
<td>16</td>
<td>12/9 Tue</td>
<td><strong>Final Exam</strong></td>
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2:00 – 4:00